**EXHIBIT A - STATEMENT OF WORK**

**INTERIM REMEDIAL ACTION**
**G-P LOG POND, WHATCOM WATERWAY SITE, BELLINGHAM, WASHINGTON**

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## I. PURPOSE

The purpose of this statement of work (SOW) is to describe the work that will be conducted to implement an interim action at the G-P Log Pond, a separate and distinct sediment site unit of the Whatcom Waterway Site (see Figures 1 and 2). This Interim Action SOW for the Log Pond implements the Agreed Order entered into by Ecology and the Georgia-Pacific Corporation (G-P), to which this SOW is an Exhibit.

This SOW presents a concise narrative discussion of the action, performance standards and the work that will be performed.

## II. INTRODUCTION

### A. Background

The Whatcom Waterway Site (Site), located within inner Bellingham Bay, Washington consists of intertidal and subtidal aquatic lands within and adjacent to the Whatcom and I&J Street Waterways within inner Bellingham Bay, Washington (Figure 1). Figure 2 depicts property ownership and general land use within the site area.

In January 1996, G-P and the Washington State Department of Ecology (Ecology) entered into an Agreed Order to perform a Remedial Investigation/Feasibility Study (RI/FS) of the Site under the Washington State Model Toxics Control Act (MTCA; Chapter 173-340 WAC; RCW 70.105D.]). The Draft Final RI/FS (Anchor Environmental and Hart Crowser 1999), which was released for public comment in July 1999, provides data, analysis, and engineering evaluations to enable Ecology to select a sediment cleanup action alternative, which is protective of human health and the environment and considers local site development plans. The public concurrently reviewed and commented on a Draft Environmental Impact Statement (DEIS) for the Bellingham Bay Comprehensive Strategy (Ecology 1999), which examined integrating cleanup of the Site with source control, habitat restoration, and land use objectives. The Bellingham Bay Comprehensive Strategy EIS serves as the State Environmental Policy Act review for the Site. The public comment period for both the Draft Final RI/FS and DEIS documents closed in September 1999; final versions of these documents are expected to be issued in June 2000.

### B. Rationale for the Log Pond Interim Remedial Action

As described in the following paragraphs, the purpose of the proposed Interim Remedial Action at the Log Pond is to remediate contaminated sediments, restore habitat and beneficially reuse clean dredge materials.

The Draft Final RI/FS explains that the G-P Log Pond, relative to the whole Whatcom Waterway Site, contains the highest sediment concentrations of mercury, as well as elevated levels of phenols and woody material. The proposed interim action will achieve cleanup standards through capping these sediments, reducing the threat to human health and the environment by eliminating exposure pathways. Containment of

the Log Pond sediments is consistent with the remedial alternatives evaluated for the Site in both the DEIS and the Draft Final RI/FS.

The draft Bellingham Bay Comprehensive Strategy identifies the G-P Log Pond as an important estuarine habitat restoration area due to its proximity to the mouth of Whatcom Creek. The proposed cap will be designed to provide significant habitat benefits, primarily by flattening steep slopes and increasing subtidal and intertidal elevations to provide improved feeding and refuge habitats and migratory corridors for salmonids and other biota. The Log Pond interim remedial action will restore habitats that existed historically within this area of Bellingham Bay.

The proposed Log Pond interim remedial action also capitalizes on the opportunity to beneficially reuse clean maintenance dredging sediments from both the Swinomish Channel, located in LaConner and Squalicum Waterway, located in Bellingham. In the absence of this project, clean sediments dredged as a result of separate U.S. Army Corps of Engineers maintenance of these federal channels would be disposed (without beneficial reuse) at the PSDDA open-water disposal site in Rosario Sound. The proposed project will allow for the beneficial reuse of all of the Swinomish Channel dredged materials, along with a portion of the Squalicum Waterway dredged materials, thus significantly reducing the amount of material that would otherwise be placed at open-water, unconfined disposal sites. The proposed project schedule has been developed with the U.S. Army Corps of Engineers to ensure effective coordination of these efforts.

## III. EXISTING CONDITIONS

### A. Characterization of the G-P Log Pond Site

The Log Pond was established as a separate and distinct site sediment unit in the Whatcom Waterway RI/FS (Anchor Environmental and Hart Crowser 1999). Figure 3 depicts existing RI/FS sampling locations and bathymetry. A summary of the RI/FS site characterization is provided below:

- **Shoreline and bathymetry**. The current shoreline of the Log Pond is comprised largely of sheet pile, wooden bulkheads, riprap, and concrete debris down to an elevation of approximately -5 feet MLLW. Mudline elevations within the Log Pond range from -5 to -15 feet MLLW, averaging -10 feet MLLW.

- **Land ownership and use**. G-P and the Port of Bellingham currently own the Log Pond property fee simple. The Log Pond is located within the middle of a well-established heavy industrial land use area with a Maritime shoreline designation. The area is currently used for transient moorage of boats and log rafts. Existing structures within the area include pilings, dolphins, log booms, and floating docks (Figure 3). The action will result in removal of most of these structures, as well as substantially shallower elevations that are well suited for intertidal habitat. The action will eliminate limited existing

log rafting, small boat moorage, and occasional ship berthing that occurs within this area by the Port and G-P.

- **Currents/wave action**. The majority of the Log Pond is isolated from currents and wave action. Portions are however exposed to Bellingham Bay to the west.

- **Subsurface geotechnical characteristics**. Subsurface conditions within the Log Pond consist of 5 to 10 feet of very soft recent deposits over 10 to 30 feet of fluvial medium dense non-silty to silty, sand (Figure 4). Below this layer is a glacial marine outwash deposit of stiff silty clay.

## B. Characterization of Log Pond Sediments

Physical and chemical characteristics of the sediments within the Log Pond are summarized in the RI/FS (Anchor Environmental and Hart Crowser 1999). The sediments to be capped have the following general characteristics:

- **Physical**. Surface sediments within the Log Pond consist primarily of sandy to very sandy silt with varying amounts of clay. Near the shorelines the sediment gradation changes to a slightly clayey, silty sand with varying amounts of gravel. Sediments consisting of greater than 50 percent shell fragments were observed near the northeast end of the Log Pond. The solids content of the sediments ranges from 25 to 40 percent, averaging approximately 30 to 35 percent. Total organic carbon (TOC) concentrations in the Log Pond area range from 2.7 to 15 percent, averaging approximately 6 to 10 percent. Surface and subsurface sediments within the Log Pond contain various remnant woody materials from historical log rafting, log haul-out, and other operations. In April 2000, 13 field vane shear tests were completed on surface sediments within the Log Pond to better understand the material's strength. Measured shear strengths ranged from 0.04 to 0.18 tons per square foot (tsf), classifying the material as very soft to soft organic silt/clay.

- **Biological/Chemical**. Accumulated soft sediments in the Log Pond contain the highest mercury levels in Bellingham Bay, with surface sediment concentrations ranging from 1 to 12 milligrams per kilogram (mg/kg); subsurface concentrations (approximately 6 feet below the mudline) range up to approximately 100 mg/kg (Anchor Environmental and Hart Crowser 1999). For comparison, the current SMS sediment quality standard (SQS) for mercury is 0.41 mg/kg. Sediments in the Log Pond also contain greater than 50 percent wood material by volume, and contain concentrations of phenol that exceed SQS criteria. Biological testing performed in the Log Pond vicinity has confirmed that such sediments may adversely affect the production of benthic infauna. Mercury present in surface sediments in the Log Pond also has the potential to bioaccumulate in fish and shellfish tissues.

### C. Capping Material Characteristics

Two potential capping materials sources have been identified:

- **Swinomish Dredge Material**. Approximately 30,000 to 35,000 cubic yards (CY) of navigational dredge material are scheduled to be removed this summer from the Swinomish Channel near La Conner (see Figure 1). The material typically has less than 4 percent fines and 1 to 8 percent gravel. An August 1, 1994 Memorandum for Record (Corps 1994) determined that the material is suitable for unconfined open-water disposal at a PSDDA dispersive or non-dispersive site. Since chemical concentrations are also below SQS criteria, the material is suitable for beneficial reuse.

- **Squalicum Dredge Material**. Approximately 150,000 CY of navigational dredge material is scheduled to be removed this fall from the Squalicum Creek Waterway channel in Bellingham (See Figure 1). The material typically has greater than 90 percent fines, though portions of the Channel contain greater amounts of sand. An April 7, 1995 Memorandum for Record (Corps 1995) determined that the material is suitable for unconfined open water disposal at either the PSDDA Bellingham Bay nondispersive site or the PSDDA Rosario Strait dispersive site. Further PSDDA characterization is ongoing by the Corps. Only those materials that are determined by the DMMO to be suitable for disposal at both PSDDA dispersive and non-dispersive sites, and which also contain chemical concentrations below SQS criteria, will be beneficial reused within the Log Pond.

## IV. DESCRIPTION OF THE INTERIM REMEDIAL ACTION

The Interim Remedial Action at the G-P Log Pond will remediate contaminated sediments and restore nearshore intertidal habitat. This will be accomplished through capping existing sediments with clean materials dredged from nearby areas in Puget Sound. The capping will occur over two phases, and the specifics are described below.

### A. Overview of the Action

The Log Pond Interim Action will convert 1.5 acres of deep subtidal, 2.5 acres of shallow subtidal mudflat/debris, and 1.2 acres of intertidal riprap (along with sheet pile, bulkheads, and concrete debris), all of which is contaminated at levels above SQS criteria, into 4.2 acres of clean, low intertidal, silt-sand and 1.0 acres of shallow subtidal habitat. The bottom (Phase I) layer of the cap will be constructed with sand, and will be placed in a manner that minimizes the potential for mixing of the cap with underlying sediments. Finer-grained native silt material will be used for the final (Phase II) cap surface, providing a base seeding of endemic Bellingham Bay benthic fauna, facilitating rapid colonization of the mudflat.

Figures 3 and 4 present the preliminary plan and cross-section, respectively, for the cap/habitat restoration design. The cap will be constructed to a minimum thickness of three feet throughout the 5.2-acre area, tapering out beyond this boundary. The

mudflat surface will be constructed to elevations ranging from approximately -4 to +4 feet MLLW, as depicted on the attached plans. The slope of the mudflat surface will not exceed roughly 10 horizontal to 1 vertical (10H:1V), and in most areas will be flatter than 20H:1V. The cap will consist of 3 feet (roughly 30,000 to 35,000 CY) of beneficially reused sand material dredged from the Swinomish Channel and placed in the Log Pond during Phase I operations. Another 25,000 CY of beneficially reused Squalicum Waterway dredge material placed during Phase II will provide the final cap surface. The Squalicum dredge material will be placed to the grades shown on Figures 3 and 4. The combined thickness of the Phase I and II cap will average between 5 and 10 feet. Final design calculations may result in minor modifications of the cap design (e.g., to ensure minimal risk to adjacent structures).

## B. Construction Approach

The preliminary design of the Log Pond Interim Action was developed based on past construction experience with similar capping projects, discussions with contractors specific to this project, and review of relevant guidance (e.g., Palermo, M., Maynord, S., Miller, J., and Reible, D. 1998. "Guidance for In-Situ Subaqueous Capping of Contaminated Sediments," EPA 905-B96-004). The final design will incorporate the results of additional sampling, analysis, and engineering calculations, and may be slightly modified from the design depicted on Figures 3 and 4. In addition, the contractor will be allowed to make minor modifications to this approach, provided that substantive elements of the design are not compromised.

### Phase I – Site Preparation & Capping with Swinomish Materials

A.H. Powers of Seattle has been selected as the contractor to perform the Phase I operations. They are currently under contract with the U.S. Army Corps of Engineers to perform maintenance dredging of the Swinomish federal navigation channel, beginning on or after July 16, 2000 and completing dredging by September 30, 2000.

G-P will contract separately with A.H. Powers to perform Phase I operations at the Log Pond. These tasks will include the following:

- Existing piling, dolphins, log booms, and floating docks within the Log Pond will be removed. Piles will be broken off within approximately 1 foot of the pre-capping mudline elevation. The piles, as well as other structures, will be transferred to adjacent uplands owned by G-P, where they will be recycled or disposed of at appropriate upland sites. Pile and associated structure removal will occur over a period of approximately 15 days at the start of this project. (Two small transient moorage slips currently located within the Log Pond will be relocated to deeper water areas).

- Sand dredged from the Swinomish Channel will be delivered by barge to the Log Pond. The Puget Sound Dredge Disposal Office (DMMO) has determined that all of the Swinomish Channel maintenance dredge materials are suitable for unconfined, open-water disposal or beneficial reuse. The material will be

delivered to the Log Pond site using 1,000 to 2,000 CY dump scows and flat scows.

- A skiff will be used to maneuver the derrick and scows within the Log Pond. Because of the potential for propeller wash impacts, tug use will be limited within the Log Pond.

- A derrick will be used to unload sand material from the scows. A 10 CY cable arm bucket will be used to offload the material, transferring 5 to 10 CY of material within each bucket.

- The cable arm bucket will be lowered to just above the water line, where the bucket will be opened slowly, concurrent with swinging the derrick from side to side. This slow release of capping material will allow the material to gently flow through the water column. Because of the low percentage of fines (less than 4%) in the Swinomish Waterway dredge material, the material is predicted to settle freely and evenly onto the Log Pond sediment surface. Turbidity is predicted to be maintained below state water quality standards, even at locations proximal to the bucket discharge (see Appendix C of the Biological Assessment prepared for this project; Anchor 2000).

- The sand material will be placed in three, 1-foot-thick layers. A waiting time of at least 2 days between successive layers will occur to allow the surface sediments to gain strength, thus minimizing the potential for mixing of the cap with underlying sediments. The contractor will monitor cap thickness during and immediately following construction.

- The contractor is expected to place between 800 and 1,000 CY per day, working 10-hour days. A total of approximately 30,000 to 35,000 CY of Swinomish Channel dredge material will be placed in the Log Pond. Thus, the total duration of the Phase I capping project is approximately 30 to 45 days.

**Phase II – Mudflat Development Using Squalicum Materials**

The U.S. Army Corps of Engineers is scheduled to perform maintenance dredging of the Squalicum Waterway navigation channel in Bellingham over the period October through December 2000. Although the Squalicum Waterway maintenance dredging is anticipated to remove approximately 150,000 CY of material from the federal channel, only 25,000 CY of this material is needed for Phase II construction of the Log Pond cap/restoration action.

The placement techniques for the Phase II material will be similar to that used during Phase I. That is, the contractor would use a clamshell bucket to offload the material. The main difference is that the Squalicum Waterway material has a higher fines content, so the material will not flow as freely from the bucket. However, the 3-foot-thick Phase I sand cap layer will provide sufficient protection from mixing with underlying contaminated sediments. Phase II operations are summarized as follows:

- Fine-grained substrate from the Squalicum Waterway will be used for the final surface within the Log Pond area, providing the desired mudflat habitat function that existed historically within this area of Bellingham Bay. Only those materials deemed suitable for unconfined, open-water disposal or beneficial reuse will be used to develop the Log Pond mudflat habitat.

- Similar to the Phase I capping procedure described above, Phase II Squalicum Waterway sediments will be placed within the Log Pond using a nominal 10 CY clamshell bucket. With this procedure, turbidity should be maintained below thresholds of potential concern for salmonids, also complying with applicable state surface water turbidity standards (see Biological Assessment prepared for this project; Anchor 2000).

- The mudflat surface will be constructed to elevations ranging from approximately -4 to +4 feet MLLW, as depicted on the attached plans. The slope of the mudflat surface will not exceed roughly 10H:1V, and in most areas will be flatter than 20H:1V. The contractor will monitor cap thickness and slopes during and immediately following construction.

- The contractor is expected to place approximately 800 to 1,000 CY per day, working 10-hour days. A total of approximately 25,000 CY of Squalicum Waterway dredge material will be placed in the Log Pond. Thus, the total duration of the Phase II mudflat development project is approximately 25 to 30 days.

### C. Institutional Controls

Since the proposed Log Pond interim action will leave residual concentrations of contamination above cleanup standards in-place under an engineered cap, measures must be undertaken to limit or prohibit activities that may interfere with the integrity of the cap. Administratively, a restrictive covenant will be placed on the property as described in Exhibit B to this agreed order. Physical measures may also be taken, such as signage and installation of a log boom to limit access. The Operations, Maintenance and Monitoring Plan (OMMP), to be developed, will describe the specific actions that will be taken to ensure integrity of the cap.

## V. PERFORMANCE STANDARDS

The Interim Remedial Action must meet the requirements of MTCA. These requirements are described below.

### A. Sediment Management Standards

The State of Washington Sediment Management Standards (SMS; WAC 173-204) establish numerical limits for chemical constituents and biological effects limits in sediments that are protective of human health and the environment. SMS requirements are implemented under the MTCA law (Chapter 70.105D RCW) and Cleanup Regulations

(WAC 173-340). The performance standards to be used to verify that construction of the remedial action is complete are the numerical sediment quality standards (SQS) chemical and biological effects criteria summarized in Table 1.

## B. Surface Water Quality Standards

### Construction

Section 401 of the Clean Water Act (CWA) requires that capping operations shall not violate applicable effluent or water quality standards. This determination allows for the designation of mixing zones within which standards may be exceeded, but beyond which applicable standards must be met. Applicable water quality standards are listed in Table 2. These standards are consistent with the following related requirements:

- Section 304 of the CWA (33 U.S.C. §1314), which requires EPA to publish Water Quality Criteria for the protection of human health and aquatic life; and

- Sections 301, 302, and 303 of the CWA (33 U.S.C. §1311, 1312, and 1313), and 40 CFR Part 131, which require states to develop Water Quality Standards. Washington Water Quality Standards are promulgated under the Washington Water Pollution Control Act (Chapter 90.48 Revised Code of Washington [RCW]; Chapter 173-201A WAC).

Washington State surface water quality standards for parameters such as turbidity/total suspended solids (TSS) have been established to protect sensitive habitat, other characteristic uses of the water body, and to provide for ecosystem and human health protection (Chapter 173-201A-030). For Class A marine waters such as Bellingham Bay, including the Log Pond, the applicable turbidity standard is as follows:

> "*Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.*"

During the months of July through December when construction is anticipated, background turbidity in the vicinity of the Log Pond is typically less than 50 NTU. Further, during this time of year, a water column turbidity of 5 NTU is roughly equivalent to a TSS concentration of 5 mg/L; TSS concentrations typically range from 2 to 30 mg/L in local surface waters (Anchor Environmental and Hart Crowser 1999). Thus, the turbidity/TSS standard for this action can be defined as a 5 NTU turbidity increase or a TSS increase of approximately 5 mg/L. As set forth in Chapter 173-201A-110(3):

> "*The turbidity criteria established under WAC 173-201A-030 shall be modified to allow a temporary mixing zone during and immediately after necessary in-water or shoreline construction activities that result in disturbance of in-place sediments… A temporary turbidity mixing zone shall be as follows:*

> "*…the point of compliance shall be a radius of 150 feet from activity causing the turbidity exceedance*."

Therefore, during construction, turbidity/TSS standards must be met at a point 150 feet from the location of capping material release into the Log Pond. As described in Appendix C of the Biological Assessment prepared for this project (Anchor 2000), peak TSS concentration increases predicted at the 150-foot mixing zone boundary during project capping operations are anticipated to be well below 5 mg/L. Thus, no exceedance of the state surface water quality turbidity standard is anticipated as a result of the proposed action. Water quality monitoring will be completed during the capping operations to verify that TSS concentrations, turbidity, and dissolved oxygen are maintained within water quality criteria (Table 2).

G-P will obtain separate permits for this action under the Clean Water Act Section 404 (U.S. Army Corps of Engineers), including Endangered Species Act (ESA) Consultation (U.S. Fish & Wildlife Service and National Marine Fisheries Service).

As set forth in RCW 70.105D.090, Ecology will ensure substantive compliance of this action with the Shoreline Substantial Development and Critical Areas Ordinance normally administered by the City of Bellingham and Hydraulic Project Approval normally administered by the Washington Department of Fish and Wildlife.

**Long-term Operation, Maintenance and Performance Monitoring**

Performance standards to be used to verify long-term protection provided by the remedial action include both sediment and water quality criteria summarized in Tables 1 and 2, respectively. Sediment quality criteria are applicable within the biologically active zone, generally defined in Bellingham Bay as the top 12-centimeters of surface sediment (Anchor Environmental and Hart Crowser 1999). Surface water quality criteria are applicable at the point where groundwater discharges into surface water. Long-term monitoring activities will be described in more detail in the Operations, Maintenance and Monitoring Plan (OMMP; see below).

## C. Other Requirements

Other requirements will be evaluated to ensure that cleanup of the Site is in substantial compliance with applicable or relevant and appropriate laws and regulations. The requirements to be evaluated include:

- Endangered Species Act (ESA; 16 USC 1536 (a) – (d); 50 CFR Part 402). Grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical.

- Rivers and Harbors Act of 1899 (Section 10; 42 U.S.C. Section 6901 *et seq*.). Establishes permit requirements for any activity that will obstruct or alter a navigable waterway.

- Washington Hydraulics Code (Chapter 75.20 RCW; Chapter 220-100 WAC). Sets requirements for performing work that would use, divert, obstruct, or change the natural flow or bed of any salt or fresh waters.

- Washington Department of Fisheries Habitat Management Policy (POL-410). Sets forth a policy of no net loss of productive capacity of the habitat of food and shellfish resources.

- U. S. Fish and Wildlife Mitigation Policy (46 FR 7644). Establishes guidance to protect and conserve fish and wildlife resources.

- Clean Air Act (42 U.S.C. Section 7401; 40 CFR Part 50). Establishes ambient air quality standards for chemicals and particulates.

- Coastal Zone Management Act (16 USC 1451 et seq.; 15 CFR 923). Requires federal agencies to act consistently with state and local shoreline regulations.

- Washington State Confined Disposal Facility Standards. Establishes procedures to develop and evaluate sediment confinement designs. Relevant and appropriate seismic design guidelines are described in American Society of Civil Engineer's Technical Council on Lifeline Earthquake Engineering Monograph No. 12, "Seismic Guidelines for Ports", March 1998.

## VI. WORK TO BE PERFORMED

Work to be performed includes remedial design, remedial action/construction, and operation, maintenance, and performance monitoring, as described below.

### A. Remedial Design Activities

Remedial design activities will include the completion of all planning activities and deliverables associated with preparation for implementation of the remedy. The remedial design will develop a technical package (or packages) that includes detailed descriptions and supporting engineering data/calculations justifying the basis for design, methods for placement of capping materials, construction monitoring, and long-term monitoring.

G-P shall submit the Draft Final (90%) Design when the design effort is approximately 90 percent complete. The Draft Final Design submittals shall include the following:

- **Engineering Justification**, providing a concise narrative discussion of performance standards and the remedy design, and how the remedy meets standard professional engineering practices. The following design issues will be addressed in detail:

    - Upland source control;
    - Recontamination from existing and future activities;

  - Cap stability/constructability;
  - Cap-induced settlement; and
  - Long-term cap integrity.

- **Construction Quality Assurance Plan (CQAP)**, including cleanup verification methods and methods for determining compliance with performance standards.

- **Health and Safety Plan (HSP)**, including specifications for use by a remedial action contractor to develop a Remedial Action Health and Safety Plan.

- **Draft Operation, Maintenance and Monitoring Plan (OMMP)**, including Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP), or amendments to the existing Whatcom Waterway RI/FS SAP and QAPP, to evaluate the success of the remedial action, including capping and habitat restoration elements.

- **Plans and Specifications**, conforming to standard engineering practice.

- **Project Schedule** for construction, identifying timing for initiation and completion of all critical path tasks, and the contracting strategy.

The Draft Final Design shall serve as the Final Design if Ecology has no further comments and issues the notice to proceed. Otherwise, the Final Design shall fully address all comments made to the Draft Final Design. However, the Final OMMP will not be submitted to Ecology until construction is complete, as outlined below.

## B. Remedial Action Activities

As described in Section II above, the Log Pond interim remedial action will cap and convert sediments that exceed SQS criteria, along with intertidal riprap, sheet pile, bulkheads, and concrete debris areas, into a silt-sand mudflat that will comply with applicable sediment quality criteria and enhance habitat functions. The bottom (Phase I) layer of the cap will be constructed with sand, and will be placed in a manner that minimizes the potential for mixing of the cap with underlying sediments. Finer-grained native silt material will be used for the final (Phase II) cap surface, providing a base seeding of endemic Bellingham Bay benthic fauna, facilitating rapid colonization of the mudflat. All construction actions will conform to the approved Final Design.

### 1. Final Inspection

After G-P makes a preliminary determination that construction is complete, Ecology shall be notified for the purposes of conducting a final inspection. The inspection is to determine whether the project is complete and consistent with the Final Design. Any outstanding construction items discovered during the inspection shall be identified and noted. The Final Inspection Report, in the form of a punch list, shall

outline any outstanding construction items, actions required to resolve items, and completion dates for these items, if applicable.

**2. Cleanup Report**

After the final inspection is performed, G-P will submit a cleanup report including as-built drawings of the interim remedial action and construction quality assurance data collected during construction.

## C. Operation, Maintenance, and Monitoring Plan

G-P shall submit for Ecology approval a Draft OMMP as part of the Draft Final (90%) Design submittal, as described above. The Final OMMP shall be submitted to Ecology following the final construction inspection, also outlined above, and along with the Cleanup Report. The Final OMMP shall include the following elements:

**1. Description of Normal Operation and Maintenance**

- Description of tasks and schedules for operation and maintenance.

**2. Description of Routine Monitoring and Laboratory Testing**

- Description of monitoring tasks, including data collection, laboratory tests, and their interpretation (including SAP, QAPP, and HSP);
- Schedule of monitoring frequency and procedures for a petition to Ecology to reduce the frequency of or discontinue monitoring; and
- Description of verification sampling procedures if performance standards are exceeded in routing monitoring.

**3. Corrective Action**

- Description of corrective action if performance standards are exceeded; and
- Schedule for implementing these corrective actions.

**4. Records and Reporting Mechanisms Required**

- Laboratory records and reports to Ecology. All sediment data will be provided to Ecology in SEDQUAL format. Other data will be provided in EIM format.

## VII. SCHEDULE FOR SUBMISSION & APPROVAL OF MAJOR DELIVERABLES

To support overall coordination and schedule objectives of this project, Ecology will endeavor to perform review of deliverables as quickly as practicable. Ecology will strive to provide all comments on major deliverables (e.g., the Draft Final Design) within twenty-one (21) calendar days of submittal by G-P. The schedule for submission of deliverables described in this SOW is presented below.

| Submission | | Due Date |
|---|---|---|
| 1. | Draft Final Design (90 percent) | May 26, 2000 |

| | | |
|---|---|---|
| 2. | Final Design (100 percent) | Fourteen (14) days after receipt of Ecology's comments on the Draft Final Design |
| 3. | Completion of Construction | As approved by Ecology in Final Design schedule |
| 4. | Final Inspection | Thirty (30) days after completion of construction |
| 5. | Final Inspection Report | Thirty (30) days after completion of final inspection |
| 6. | Cleanup Report and Final OMMP | One hundred twenty (120) days after completion of construction |
| 7. | Long-Term Monitoring and Reporting | As approved by Ecology in Final OMMP |

## VIII. REFERENCES

Anchor Environmental, 2000. Biological Assessment: Combined Remedial Action and Habitat Enhancement for the Georgia-Pacific Log Pond, Whatcom Waterway, Bellingham. Report prepared by Anchor Environmental, LLC for Georgia-Pacific West, Inc. March 20, 2000.

Anchor Environmental and Hart Crowser, 1999. Draft Final Remedial Investigation/Feasibility Study. Report prepared by Anchor Environmental, LLC and Hart Crowser, Inc. for Georgia-Pacific West, Inc. July 15, 1999.

Corps, 1994. Memorandum for Record: Determination of the Suitability of Dredged Material Tested Under PSDDA Evaluation Procedures for the U.S. Army Corps of Engineers Maintenance Dredging of the Swinomish Channel for Disposal at the PSDDA Rosario Strait Open Water Disposal Site. Puget Sound Dredged Disposal Analysis Agencies. August 1, 1994.

Corps, 1995. Memorandum for Record: Determination on the Suitability of Dredged Material Tested Under PSDDA Guidelines for in Bellingham Harbor Maintenance Dredging at Squalicum Creek Waterway for Placement at Either the Bellingham Bay Nondispersive or the Rosario Strait Dispersive Open Water Sites. Puget Sound Dredged Disposal Analysis Agencies. April 7, 1995.

Ecology, 1999. Bellingham Bay Comprehensive Strategy: Draft Environmental Impact Statement. Report prepared by Anchor Environmental, LLC and associated firms for Washington Department of Ecology. July 1999.